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# **Solid Waste Management in Illinois. Volume 5: The Plan**

**Roy F. Weston, Inc, West Chester, PA**

**Prepared for**

**Illinois Inst for Environmental Quality, Chicago**

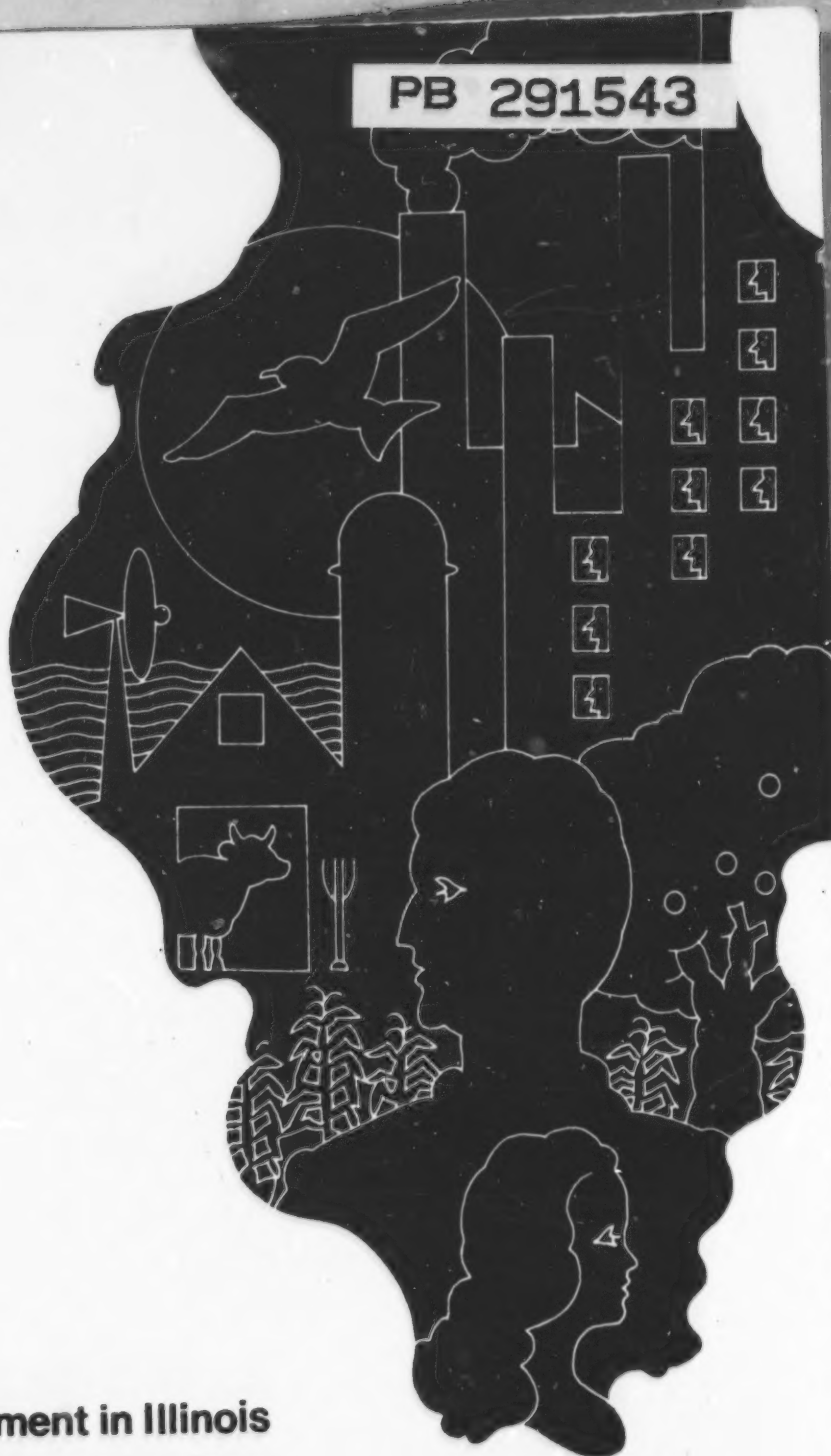
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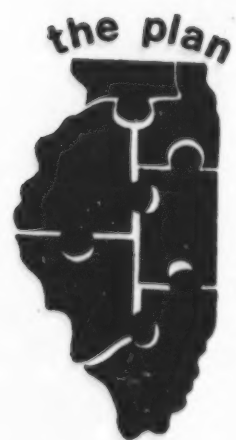
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## Solid Waste Management in Illinois Volume 5: The Plan

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Volume 5

**SOLID WASTE MANAGEMENT PLANNING  
VOLUME 5 - THE PLAN**

for

**ILLINOIS INSTITUTE FOR ENVIRONMENTAL QUALITY  
STATE OF ILLINOIS**

by

**ROY F. WESTON, INC.**

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# The Plan

## Historical Background

In Illinois, it has been traditionally assumed that most activities are best carried out by small groups of people with common interests, and that government should be a minimal part of society. The form of government that has emerged is characterized by a large number of local jurisdictions, including 102 counties, 1,267 municipalities, and over 1400 townships. Additionally, there are more than 3000 single-purpose units of local government such as school, fire protection, flood control, and other special districts, most of which have some taxing or fee-collecting powers. These special units were organized because general purpose units were either not qualified, or did not have sufficient resources to deal with the specific problem. The total - over 6,400 units of local government - exceeds any other state.

## The State's Role

In 1967, the Department of Public Health promulgated regulations for sanitary landfills. Few resources were allocated for enforcement, however, the improvement was spotty, though in some cases striking.

In 1969, the Illinois General Assembly recognized that certain benefits are attainable through the regional management of solid wastes. The Solid Waste Disposal District Act was passed in that year, but has not yet been used. Voters still prefer "home rule" solutions and generally oppose adding to the complexities of government and its taxing power.

Important new legislation was enacted in 1970:

1. The new state constitution affirmed the "home rule principle
2. An Environmental Protection Act was passed (providing both the authority and the resources to deal with pollution problems)
3. Voters ratified an Anti-Pollution Bond Act which provides for grants to solve water pollution and solid waste problems

Vigorous enforcement by the Illinois Environmental Protection Agency (IEPA) enabled the state to lead the nation in "Operation 5000" - a United States Environmental Protection Agency (US EPA) program for closing open dumps. Revised rules and regulations for sanitary landfills were promulgated in July, 1973, and all landfill operators were required to obtain permits by July, 1974.

## **Solid Waste Planning in Illinois**

The combined effect of regulations and enforcement have impressed public officials with the need to reassess solid waste management problems. The State Solid Waste Planning Project, which has been conducted by the Institute for Environmental Quality (IEQ) and Roy F. Weston, Environmental Consultants and Designers, (with grant assistance from the US EPA), have established a continuing program to assist local and regional planners in developing and evaluating solid waste management alternatives.

## **Local Attitudes**

Most public officials recognize the nature and scope of local solid waste problems and the advantages possible through regional cooperation. They have been constrained by uncertainties as to which courses of

action to follow and by a lack of resources to meet capital and operating requirements.

The City of Chicago is a notable exception. It has a well-organized system with both the resources and the competence needed to provide a high level of service, meet strict environmental standards, and make adequate provisions for the future.

## Solid Waste Management Needs

The IIEQ and its consultant have surveyed many communities and have observed the following problems and needs:

1. Most public officials are not aware of the true cost of solid waste management in their communities
2. Many communities want to establish a resource recovery system, but neither the public nor their elected officials have current facts on the economics of such operations or the state of development of the various technologies
3. The public does not understand the continuing need for sanitary landfills
4. The public is not aware of the improvements in solid waste disposal practices in Illinois since 1970
5. The statutory tax ceiling for solid waste management is not adequate to provide for environmentally acceptable collection and disposal operations
6. Many local solid waste systems involve inefficient practices which lead to higher costs, marginal profit for private operations, and degradation of the environment

7. The willingness of the private solid waste industry to make necessary capital investments is offset by the reluctance of public officials to enter into long-term agreements
8. There is a reluctance by county governments to become involved with solid waste matters, especially in providing collection services to rural areas
9. There are no controls on the producers, haulers, and processors of those special wastes which have a potential for environmental damage if improperly handled

## Solid Waste Management Practices and Problems

Present solid waste systems in Illinois range from the self-hauler using a personal vehicle and an out-of-the-way disposal site to complex systems involving compaction trucks, transfer stations and sophisticated processing and disposal technology.

Most of the regions studied were served by more than one landfill, and always by more than one collection system. The fact that more than one alternative was available for a principal waste-control activity emphasizes the need to plan and the need for specific system data.

In general, more densely populated areas have multiple collection systems and disposal options, and therefore, present more complex problems in waste control. Systems serving sparsely populated regions are less complex, but are difficult to manage with available funds. Between these extremes, each area experiences problems which are unique and which would benefit from a regional examination and solution.

The basic data supplied for this project by regional planning agencies revealed the present condition of solid waste management in Illinois, including common or recurring problem areas.

Most regions have landfills which do not have or could not obtain a State permit under present regulations. Few regions have sufficient capacity in existing landfills to receive the anticipated waste for the next five years, and most have even less capacity. Some regions are critically short of capacity, whether in permitted or unpermitted sites.

Diagrams prepared for each region which show the pairing of waste sources with disposal sites clearly indicate local practices which of necessity or by preference have created excessively long or overlapping haul conditions.

The best that can be said for many existing solid waste systems is that they do function and provide a marginal service. Acceptable costs and the assurance of continued service become matters of considerable concern when existing practices, available data and future requirements are examined.

The design of a regional solid waste system is a complex mixture of public works, private enterprise, and self-service collection and disposal activities. In some areas, solid wastes are managed almost exclusively by private firms. In others, all but special wastes are handled by a public works department. In the more rural areas, self-hauling and disposal is common. Present arrangements are accepted, and in many cases, only careful planning and education can overcome traditional ideas, opinions, and practices.

Factual data on present conditions is basic to any planning effort. In a field such as solid waste management where needs, technologies, and understanding are rapidly expanding, it is difficult to determine the precise amount of data needed for proper planning. The consultant's planning methodology did not require an elaborate program of local data collection. It was important, therefore, that the data used was carefully checked by the regional planning agencies to insure a reliable basis for subsequent calculations.

Because of the "mix" of management methods in a region, any available data on the costs and quality of service, and the actual number of those served, is somewhat suspect. For instance, while a public works official may report "cost" as the total cost for the service per budget estimate, he may exclude the use of personnel or equipment from other divisions not directly related to waste management. Alternatively, he may include the cost of snow plowing or earth moving that is accomplished by refuse control equipment. "Cost" to the private waste managers, as reported to planners, is the price they charge to customers. It rarely if ever is the actual cost stripped of profit, voluntary contributions, and business promotion expenses; therefore it is difficult to compare the cost of private with public works. For these reasons the cost data available in most regions is of little value. Records of waste volumes transported to or received at landfills, where available, are of some use in confirming waste-generation estimates and site operating levels.

One other major problem in evaluating existing solid waste management systems is the matter of "pride of authorship". Existing systems are often reported to be mechanically and financially successful to justify previous decisions by public officials or administrators still on the scene. Such reporting makes it difficult to evaluate management alternatives.

## Present Problems in Illinois

The most pressing problem statewide is to establish disposal sites or techniques in advance of need. The enforcement of IEPA permit procedures, the exhaustion of site capacities, and the difficulty of establishing new facilities will produce a crisis in almost every region of the state within the next three years.

Planning and zoning practices treat land needs for solid waste disposal as a "variation" or a "special use." Other land uses have precedence in

almost every instance. While planning practices are intended to provide guidance for the selection and use of facilities, private enterprise cannot and will not compete for a single site on the basis of its being the only acceptable location. Therefore, most regions must be flexible enough to consider alternative land uses, or must impose public-managed facilities and services upon the region.

The present system of small, scattered sites provides a convenient disposal method for most areas of the State. This practice, however, has produced widespread environmental damage. Small sites require many of the same environmental safeguards as larger sites. The costs of such protective procedures must be passed on by owners or operators to site users. Small sites must therefore charge a proportionally higher fee to provide environmental controls. One purpose of solid waste planning is to balance haul, processing and disposal costs in a manner that maintains environmental standards at a reasonable or least-cost level.

Some of the arbitrary restrictions imposed on landfill use increase the total system costs. Municipal sites which do not accept non-municipal and non-local wastes reduce the total waste receipts, which often increases the unit cost of facility operations. The additional haul cost incurred by those barred from site use is another obvious increase in total system cost.

Quite typically, the purpose of limiting site use is to extend facility life. Those who have been denied the use of a site have been known to organize opposition to the owner's effort to expand the site or to procure new sites, particularly new sites outside of the political jurisdiction of the requesting owner or agency.

Some privately-owned sites also limit use to nearby citizens and haulers. Such restriction usually reflects a conflict between competing haulers rather than with the local governments or regional waste sources.

## Future Problems

Future operations will repeat most past mistakes unless proper planning is undertaken. The problems of inadequate disposal sites and facilities will be compounded by additional waste quantities from new and better collection systems, and from new waste sources such as the industrial sludges produced by recently-required pollution control devices.

As waste volumes increase and land use becomes more intensive, volume reduction techniques will become more commonplace. Landfill sites utilizing advanced environmental control methods may be required in some areas in order to obtain zoning.

Resource recovery as well as the restoration of surface-mined areas could become principal problems or problem solutions, depending upon the planning, attitudes, and directions of development.

The recovery of materials from solid waste can be a problem solution, but any untimely, unplanned, or ill-advised venture into recovery techniques could postpone the general acceptance of resource recovery systems. For example, no less than eighteen major composting projects have been constructed in the United States since 1951 and only two are still in operation. Each for its own reason ceased operation, though the product produced was of recognized value.

Similar histories have been reported for resource recovery facilities where closure resulted from limited market value, technical equipment failures, financial difficulties, loss of source contract, loss of nearby market, transportation costs, and the inability to produce a product which meets industry's raw material specifications.

One of Illinois' future problems will be to establish systems of reclamation, recovery, and reuse which overcome local government barriers, conflicts with private enterprise, and fluctuating commodity markets. While some of these changes can be a part of the regional plan, only a

thorough understanding of the problems and a firm commitment to cooperation can make resource recovery a reality.

## Role of the Solid Waste Management Task Force

The Environmental Protection Act provides for a Solid Waste Management Task Force to "...make surveys and recommendations regarding the development of regional systems of solid waste and refuse collection, handling and disposal; for coordinating municipal and industrial solid waste disposal programs; to expedite development of systems for the recycling and re-use of refuse and solid waste materials; and to make periodic reports and recommendations for submission to the Board.... The Task Force shall be composed of Institute, municipal, county, state, and industrial representatives technically qualified in the area of solid waste management." The Task Force has reviewed the solid waste management needs described in this report and has made recommendations for the future role of the State. Their plan for action includes: 10 objectives; related problems; alternatives considered; conclusions; and recommendations. The 10 objectives are:



To fulfill the aims, goals, and requirements of the Illinois Environmental Protection Agency, including: promoting the conservation of natural resources, preventing the pollution or misuse of land, minimizing environmental damage; encouraging recycling and reuse; and upgrading waste collection and disposal practices.



To coordinate state solid waste programs with other environmental control programs.



To define the roles of government for solid waste management in Illinois.



To promote regional solid waste management and operations



To identify the role of the private sector in solid waste management



To promote resource recovery



To review existing laws and regulations and to provide changes when appropriate.



To develop a program for managing special wastes



To improve the transfer of solid waste management technology and information to State, regional and local agencies.



To review state solid waste planning.



## **Objective 1**

The first objective is to fulfill the aims, goals, and requirements of the Illinois Environmental Protection Act, including: promoting the conservation of natural resources; preventing the pollution or misuse of land, minimizing environmental damage; encouraging recycling and reuse; and upgrading waste collection and disposal practices.

### **PROBLEM**

Implementation of the Act has focused on solid waste disposal to the exclusion of storage, collection, and processing. Regulations and enforcements have occurred without a comprehensive state policy on solid waste management.

The public is concerned about increasing quantities of solid waste, the diminishing number of places in which to put it, and the apparent lack of action on the state level.

### **ALTERNATIVES CONSIDERED**

Narrow interpretation of the Act could be continued, developing regulations and programs only where problems exist or appear imminent. Responsibility for waste management services could be left up to the user.

Planned changes could take place. Regulations could be proposed for all functional areas, including solid waste collection, disposal, storage, and processing. Resources needed to implement the regulations would be identified. The Act could be amended to give the state a more active role in solid waste collection, processing, and disposal.

The public could be informed on solid waste issues, problems, practices, and responsibilities.

## **CONCLUSIONS**

The State's emphasis on disposal regulations and enforcement has been justified due to urgent environmental needs, the need to establish statewide standards of practice, and the need to establish a basis for improvements in waste management.

Although the State does not have resources to enforce storage and collection services, it should encourage and assist local governments with these tasks. It has recently expanded its solid waste activities to provide for a range of solid waste management activities, including landfill engineering, resource recovery, technical assistance, regional planning assistance, operator certification, and demonstration grants. Urging the State to take a still stronger role ignores: the Illinois tradition that solid waste management is a local responsibility; the fact that the private sector is already providing efficient regional services in many areas; and the need for private capital, and industry to develop a new waste management technologies and markets for materials which can be recovered.

As of August, 1974, Illinois leads the nation in open dumps which have been closed. Approximately 125 unsatisfactory landfills have closed voluntarily since July 27, 1974 in response to state permit requirements which became effective on that date. Regulations and enforcement are needed and are useful as long as they focus on the results rather than on technique for achieving them.

A survey by the IIEQ revealed that approximately 70 percent of the citizens are satisfied with their solid waste management services and that over 60 percent are willing to pay a reasonable fee (\$4 - \$6/month) for that service.

## **RECOMMENDATIONS**

Since the Act has proven adequate to meet solid waste management needs, it should not be amended. Solid waste collection and disposal should continue to be the responsibility of local units of government. State regulations should be prepared only for those functional areas which are beyond the capabilities of local government, and which the State has the resources to administer.

State policy should not distinguish between publicly and privately managed solid waste programs.

The State should expand its programs for informing the public on solid waste issues and for providing assistance to local and regional planning and operations.



## Objective 2

The second objective is to coordinate State solid waste programs with other environmental control programs.

### PROBLEM

Solid waste management is under the jurisdiction of several State Code Agencies: Agriculture, Transportation, Conservation, Mines and Minerals, Public Health, and the Office of the Secretary of State. No mechanism exists for identifying State needs and for coordinating efforts. Additionally, the three Illinois environmental agencies have mutually supporting and overlapping solid waste responsibilities.

There is no regular review of performance. Within the Illinois Environmental Protection Agency (IEPA), solid waste responsibilities are shared by four divisions.

The public is uncertain about the assignment of solid waste responsibilities and the degree of coordination they can expect among State agencies.

### ALTERNATIVES CONSIDERED

An interagency committee could be established to identify solid waste problems, plans, and programs. Also, State employees and officials

could be encouraged to attend solid waste training and technology transfer sessions. The Illinois Pollution Control Board (IPCB), the Illinois Environmental Protection Agency (IEPA), and the Illinois Institute for Environmental Quality (IIEQ), and the Solid Waste Management Task force could meet periodically to review functional programs.

A listing of solid waste management responsibilities in State agencies and the individuals responsible could be prepared and disseminated.

The position of ombudsman, such as exists in Ohio, could be established to receive citizen inquiries and complaints; insure prompt responses by appropriate State employees; provide some relief for agency directors by separating routine problems from policy matters; provide a feedback mechanism for the way in which agencies are meeting public concerns; and provide a measure of recourse, which in non-political and which is short of legal action, for the person who has a complaint with an agency or agency representative.

## **CONCLUSIONS**

It was the intent of the Illinois General Assembly that the Solid Waste Management Task Force review and advise the state on solid waste programs, periodic meetings between the Task Force and the three environmental agencies would be useful provided the scope and purposes of the meetings are established and policy makers attend them.

Uncertainty exists regarding the assigned location of solid waste responsibilities within the state government. A clear identification of the location of responsibilities at the functioning level is necessary.

Establishing the position of ombudsman would be a major new function which could dilute the attention and resources of State agencies at a time when programs initiated under the Act are just becoming productive.

## **RECOMMENDATIONS**

Communication and cooperation in solid waste management are essential. Therefore, the IIEQ should prepare a listing of all solid waste management functions within the state government and the agencies and persons responsible for administering those functions. The IIEQ should also draft a plan for joint meetings between the Task Force and the responsible officials from the three environmental agencies.

The State should not undertake to establish the position of ombudsman or to organize an interagency solid waste management committee.



## Objective 3

The third objective is to define the roles of government for solid waste management in the State.

### **PROBLEM**

The Act is specific in assigning roles to the environmental agencies. New legislation would be necessary to change the State's role. However, the roles for Federal, State, regional, and local government are ill-defined and often overlapping. Traditionally, solid waste operations in Illinois are the responsibility of local government and private industry. Local governments vary in the resources available to manage solid waste problems.

Many officials and citizens expect Illinois to follow the example of other states such as Wisconsin and Connecticut which have passed legislation to create State-controlled solid waste management systems.

### **ALTERNATIVES CONSIDERED**

Illinois could continue to leave solid waste management up to local government and industry; could establish a state-controlled management system such as planned for Wisconsin and Connecticut; or could encourage regional solutions to solid waste management problems.

## **CONCLUSIONS**

Local governments in Illinois prefer to retain control of solid waste management programs. State controlled waste management systems would require large capital investment. The economies of such systems are unproven. However, there is need to explore the progress and development of such systems and to keep the public informed.

Regional solid waste management systems are not necessarily beyond the means of less populous counties. However, the State grant program is too restrictive in terms of the needs of such systems.

## **RECOMMENDATIONS**

Studies should be undertaken by the IEPA and the IIEQ to determine the objectives and goals of the solid waste grant program and the best method of implementing it. The IIEQ should also follow the development of State systems and explore the design and costs of small-county systems and keep the public informed on both. In the meantime, the State should continue with its present system before committing taxpayers to a State-controlled system.



## Objective 4

The fourth objective is to promote regional solid waste management and operations.

### PROBLEM

All citizens in Illinois should have reasonably priced solid waste management services. Many local governments do not have the resources to organize, manage, or supervise such services. Additionally, many marginal solid waste operations are in violation of the Act.

Public officials and regional planners recognize the need for regional cooperation but do not know how to implement it. So far, regional cooperation in solid waste management has been restricted largely to planning. The creation of regional organizations in Illinois has been hindered by the large number of existing units of local government, each of which has taxing powers.

### ALTERNATIVES CONSIDERED

The State could encourage regional cooperation by examining the legislative needs for a solid waste authority, drafting legislation where necessary; studying and defining the specific functions and organization of a solid waste authority; examining funding alternatives; providing grant assistance for the initial organization of an authority; continuing assistance to regional planners in developing an economic rationale for regional

cooperation; and encouraging counties to take an expanded role in regional solid waste management, particularly with regard to disposal and resource recovery.

## **CONCLUSIONS**

The private solid waste industry tends to be regional because of its concern for management and its fewer political constraints.

About 85 percent of the State's population live in 42 (of the State's 102) counties, which either have or are considering some form of regional management system. The county itself seems to be a basic regional operating unit. However, each region must work out its own basis for cooperation.

The 1970 Constitution provides a basis for regional cooperation. Assistance from the State may be needed in setting up regional organizations.

## **RECOMMENDATIONS**

The State should encourage regional cooperation, since it provides opportunities for improved solid waste management. The State should encourage counties, especially those rural ones with inadequate solid waste management services, to take expanded roles in regional management, particularly with regard to collection and disposal sources. This can be accomplished through continued regional planning assistance by the HIEQ and grant assistance from IEPA. Regions should be allowed to determine their own bases for cooperation rather than having State-imposed requirements. Private industry should be considered as a useful resource in planning small regional systems.



## Objective 5

The fifth objective is to identify the role of the private sector in solid waste management.

### PROBLEM

Most solid waste in Illinois is handled by the solid waste industry. Most members are small businesses. Little statistical data is available on their operations.

However, many problems exist for small-scale solid waste haulers and operators. Most of them lack both the resources and managerial ability to increase the scale and efficiency of their operations. Most private collectors have no control over means of processing and disposal and are at a competitive disadvantage with collectors who do control processing and disposal. Excessive competition, especially in overlapping routes, increases costs for many small operators. Efforts to consolidate sometimes have faced anti-trust action.

Many people, particularly in rural areas, are accustomed to self-disposal, including burning and open dumping, and are reluctant to pay for the services available from private haulers.

The solid waste industry has opposed being declared a public utility, citing the existence of competition, the high-risk nature of the business, the need for profitability to justify investment in land and facilities, and the favorable comparison between industry charges and the cost of

municipal operations. However, the State grant program is not available to private industry.

There exists a communications gap between the government and solid waste management industry. Many local officials are inexperienced in dealing with the industry. They find it difficult to evaluate bids because they lack knowledge of the true costs of municipal waste collection and disposal. At times, they fear a lack of competition. They are reluctant to make long-term commitments to private industry.

## **ALTERNATIVES CONSIDERED**

The State could: officially recognize the importance of the solid waste disposal industry; register and license solid waste operators to facilitate communication and eliminate sub-standard operations; provide technical assistance to communities in drafting and negotiating contracts for collection, processing, and disposal; identify and alter any statutory constraints which may inhibit the provision of adequate services at reasonable costs; provide assistance to small businesses by improving collection efficiency, identifying regional opportunities, providing low-interest loans, and tax incentives; and provide assistance in forming regional solid waste authorities to enter into long-term agreements with industry.

## **CONCLUSIONS**

The recent growth of the solid waste industry has resulted in an accumulation of resources, skills, and organizations to provide a wide range of services. The industry is well represented in Illinois, particularly in metropolitan areas. The private waste industry tends to be regional, while municipal activities tend to be non-regional.

The solid waste industry is well established, since most waste collected

in the U.S. and in Illinois is handled by the private sector. Furthermore, this share is increasing as public officials become aware of the cost savings possible through more efficient operations. The problem of excess competition is overstated. Competition results in setting standards for adequate service at the lowest possible price. The "squeeze" placed on profitability determines the number of competitors.

The solid waste industry provides a service. As such, its standards have generally risen with or without government intervention. The industry in Illinois has generally supported State regulations on the theory that enforcement of a uniform standard will increase the competitiveness of well-managed operations.

The industry is interested in working with the government in order to bid on contracts, take advantage of public facilities and billing services, and in developing longer-term agreements.

The best way to deal with the solid waste industry is through competitive bidding, since contracts encourage competition. Municipalities may enter into more than one contract; however, such contracts should be written so as to encourage bidders to explore various ways to solve management problems. Public officials should consider the fact that a contract paid from tax revenue is tax deductible for the taxpayer, and that contractual arrangements can provide for those individuals unable to pay for services themselves.

Franchising is least desirable since it grants an exclusive right; tends to limit competition; and suggests a perpetual arrangement like those for the telephone and electric utilities, for which rates and services are controlled by the state.

Detailed standards for interstate hauling are set by the federal government. These standards can be used to develop presently lacking statewide standards.

## **RECOMMENDATIONS**

The IEPA and the IIEQ should make public officials aware of the advantages and disadvantages of contracting, licensing, and franchising solid waste management activities. This should include the dissemination of model contracts developed by the National Solid Waste Management Association.

The State should make no distinction between the public and private sectors in standards and financial aid.

The IEPA and the IIEQ should explore the possibility of adopting federal interstate hauling regulations for use within the State of Illinois.



## Objective 6

The sixth objective is to promote resource recovery.

### PROBLEM

The public favors resource recovery because of the need to conserve natural resources, including energy; the inherent loss of resources in present solid waste management systems; the urgent need in many areas to provide new facilities to replace depleted landfill sites or environmentally unacceptable solid waste operations; interest in new technologies; public unwillingness to accept landfill sites as neighbors.

A number of resource recovery systems have been built and others are being built, but complete operating information is not yet available, and probably will not be for two or three years. Systems now envisioned require waste input from a minimum of 200,000 persons. While new technologies exist, none has been completely proven in terms of plant construction and operating costs, plant design, marketability of recovered resources, and other economic and environmental issues. It is unlikely that resource recovery systems can be operated at a profit. Therefore, the least-cost management alternative must be considered in evaluating resource recovery systems. The large capital investment required represents a formidable obstacle to both government and industry in view of the present money market.

Neighborhood recycling operations, which have provided a means for public participation in the environmental movement, face continuing

problems of volunteer labor, markets, and material specifications for which the State has provided little recognition or assistance.

The potential for source-separation and separate collection of news-prints and corrugated paper has been demonstrated in Rockford, Springfield, Peoria, and other U.S. cities. So far, little use of this experience has been made by other cities.

The marketing of recovered resources is the most perplexing aspect of the resource recovery problem. Government is less qualified than private industry to perform this role.

## **ALTERNATIVES CONSIDERED**

The State Solid Waste Management Planning Project report on resource recovery problems and opportunities (Volume ) has identified regions with 200,000 or more people for which resource recovery systems may be possible. Several of those areas are faced with the need to invest in future solid waste management solutions, are uncertain as to which technology to adopt or how to proceed, and have formed no solid waste organizations to develop answers or formulate a plan of action. Some of these regions may be willing to accept marketing risks for recovered resources.

Industry has expressed interest in making proposals on regional systems, but may have difficulty in dealing with many units of local government.

The state could: develop procurement regulations which would encourage the demand for recovered resources; continuously examine the markets for recovered materials to provide timely advice to regional agencies and neighborhood centers; establish a clearinghouse to bring together buyers and sellers of recovered materials; provide grants for regional authorities to develop plans, determine assured waste input, and negotiate with industry; provide low-cost loans or grants to regions or to industry to

construct resource recovery facilities; develop legislation which would require local government and industry to develop affirmative action programs for resource recovery; and develop guidelines and regulations for resource recovery systems in order to remove any uncertainty regarding what the State will require.

## **CONCLUSIONS**

The goal of resource recovery is not to make a profit but to reduce net disposal volume and costs. Therefore, resource recovery is linked to other waste management alternatives. A complete cycle must be achieved for resource recovery to be successful. The extraction of materials from the waste stream only serves a purpose if those materials find their way into use.

Resource recovery must follow the markets. If it preceeds them, the effect is to lower the price of the commodities so that resource recovery becomes uneconomic in comparison with other management techniques. A strong demand for secondary materials will produce the capital needed to construct resource recovery systems. Grants have not stimulated the demand for recovered materials. More wastes are being recovered than the public realizes. One effect of ill-advised new systems can be the diversion of waste from existing recovery systems, thereby making them uneconomic. Certain intermediate-scale resource recovery operations, such as in Evanston, Illinois, are self-sustaining, but vulnerable to competition. Neighborhood recycling operations have had positive value by acquainting the public with the solid waste problem. They have also underlined the need for regional resource recovery systems which can achieve net energy savings, conserve natural resources, and which have the economic strength to compete for reliable markets.

One possible effect of removing high-value commodities from the municipal waste stream is to delay the day when the construction of full-scale regional systems can be justified.

Government officials should be limited to the same economic standards as the private sector when it comes to deciding whether or not to invest in a resource recovery system. The idea of establishing regional authorities might have the effect of discouraging the private sector.

A State procurement policy in the use of secondary materials would be an insignificant effect, but might be undertaken as a symbolic activity.

## **RECOMMENDATIONS**

The state should not participate in or encourage local governments to make speculative investments in resource recovery operations.

The IEPA and the IIEQ should inform the public of the realities of resource recovery, particularly regarding inefficient recovery practices. The IIEQ should provide a clearinghouse of information on markets for secondary materials, and should provide guidelines for neighborhood recycling centers on such matters as safety and health standards and market opportunities. The IIEQ and the IEPA should encourage the reuse of certain special wastes such as municipal sludges in order to meet regional needs without becoming a load on the solid waste management system.

The IIEQ should also investigate the possibility of developing informational material which can be used by the Illinois Superintendent of Public Instruction to supplement the work started under the Environmental Education Plan to inform students of the problems, practices, and opportunities for improved solid waste management and resource recovery.



## Objective 7

The seventh objective is to review existing laws and regulations and to propose changes when appropriate.

### **PROBLEM**

There is no comprehensive compendium or digest of all laws pertaining to such activities. Local solid waste ordinances are often incomplete or nonexistent. No agency is responsible for reviewing the statutory needs of solid waste management.

There are misunderstandings about what can and cannot be done under the law. Some of these misunderstandings stem from the 1970 Constitution which has not been thoroughly tested. Additionally, the Illinois Supreme Court decision in the case of Rockford vs. O'Connor has left doubts as to the role of IEPA in the designation of landfill sites.

### **ALTERNATIVES CONSIDERED**

The Environmental Protection Act provides for updating and revisions. The IIEQ and its Solid Waste Management Task Force are responsible for studies and recommendations which could lead to revisions when necessary.

The state could: appoint a member of the General Assembly to the Solid Waste Management Task Force; prepare a digest of solid waste related

laws and an analysis of limitations and possible conflicts; establish a legislative review committee representing all state agencies with solid waste responsibilities; prepare model solid waste ordinances for local use; and survey legal problems perceived by solid waste managers throughout the state.

## **CONCLUSIONS**

The environmental movement's impact on a recent decision by the Interstate Commerce Commission (ICC) to limit increased freight rates for secondary materials suggests that the State should be taking a position on national issues which affect solid waste management in Illinois.

The Solid Waste Management Task Force is the appropriate group to review solid waste management activities and to make recommendations on legislative and regulatory needs.

## **RECOMMENDATIONS**

The IIEQ should invite a member of the Illinois General Assembly to become a member of the Solid Waste Management Task Force. It should prepare a digest of solid waste laws, legal constraints, and model ordinances. It should also draft a position on national issues related to Illinois for review and approval by the Task Force.

The IEPA should develop a position on the impact of the Rockford vs. O'Connor decision on solid waste operations.

Both the IIEQ and the IEPA should prepare periodic reports on legislative and regulatory needs for presentation to the Solid Waste Management Task Force.



## Objective 8

The eighth objective is to develop a program for managing special wastes.

### PROBLEM

There are many wastes which are not acceptable at sanitary landfills or at wastewater treatment plants. Special handling is required to avoid environmental hazards.

Most special wastes are attributable to industry. Industry has been reluctant to acknowledge special waste problems due to proprietary information or to uncertainties regarding costs. There is comprehensive list of special wastes encountered in Illinois.

Waste collectors and haulers are becoming increasingly concerned with finding suitable disposal means for special wastes. Safe handling methods cannot always be adequately determined. The adoption of special wastes regulations without a knowledge of acceptable disposal methods invites potential environmental damage. Both Illinois and the U.S. Congress are considering comprehensive legislation for hazardous substances.

### ALTERNATIVES CONSIDERED

Most special wastes can be disposed of safely. The State Solid Waste

Management Planning Project has prepared a classification system for systematically recording information on special wastes and management techniques. The Illinois Chamber of Commerce has an industrial committee to review special waste problems and to develop management solutions. A new industry is emerging to receive, process, and dispose of certain special wastes.

Industries which use toxic and hazardous wastes can be identified by the Standard Industrial Classification (SIC) code.

The State could adopt a special waste classification system; prepare an inventory of special wastes; and extend the industrial inventory made in connection with the State Solid Waste Planning Project to identify the industries and localities where highly toxic substances (as defined by the US EPA) are used. The US EPA, the IEPA, the IIEQ and industry could jointly develop non-hazardous management and disposal methods for special wastes.

## **CONCLUSIONS**

Special wastes must be disposed of safely. The responsibility for safe handling of special wastes is shared by the generator, the hauler, and the processor or disposal facility operator. Any regulation of special wastes must apply to all three. The burden of identifying constituents of special wastes should be with the generator. The ICC and OSHA have hazardous substances requirements which might be adapted to Illinois' needs.

The State Solid Waste Management Planning Project has prepared a classification system for systematically recording information on special wastes and management techniques. This system can serve as a basis for organizing special waste activities in Illinois.

## **RECOMMENDATIONS**

The IEPA should adopt a special waste classification and control system which would affect generators, haulers, and disposers. It should encourage industry to develop environmentally acceptable disposal methods. IEPA should then extend its enforcement efforts to ensure that the system functions as designed.

The IEPA should also investigate the use of ICC and OSHA standards for special wastes management systems. It should also extend the Industrial Inventory made in connection with the State Solid Waste Planning Project to identify the industries and localities where highly toxic substances are used.



## **Objective 9**

The ninth objective is to improve the transfer of solid waste management technology and information to State, regional, and local agencies.

### **PROBLEM**

Solid waste technology is changing rapidly. The application of new methods is dependent on economics and social and political acceptability. Unfortunately, most solid waste managers have had limited experience with new technologies and the public receives little factual information.

The US EPA has a technology transfer mission which so far has had little contact with local solid waste managers and public officials in Illinois.

There are excellent sources of information available to solid waste professionals. Unfortunately, much of this information does not reach the sub-professional or the operator levels or public officials.

### **ALTERNATIVES CONSIDERED**

The League of Women Voters of Wilmette, Illinois, has sponsored semi-annual conferences on solid waste matters. Invited audiences included public officials, the solid waste industry, and recycling center operators. The outstanding results achieved suggest that such meetings should be held in other regions.

The State could invite other responsible environmental groups to sponsor regional solid waste workshops; develop basic instructional materials for use by the media in explaining State policies, needs, goals, and available technology; publicize the solid waste management training available in colleges and universities; assist the Department of Registration and Education to prepare solid waste questions for professional license examinations; make the "Illinois Solid Waste Manager" available to the public, and expand coverage of State and national matters.

The IIEQ could continue publication of directories of environmental organizations, neighborhood recycling centers, and markets for recyclable materials. The IIEQ and the IEPA could expand their role of providing technical assistance to public officials.

Private industry could be invited to join in State and State agency actions.

## **CONCLUSIONS**

Excellent sources of information on solid waste management include: the US EPA's Office of Solid Waste Management Programs; Solid Waste Management, Waste Age, Public Works, and American City magazines; the American Public Works Association; the American Society of Civil Engineers; the National Solid Waste Management Association and its Institute for Waste Technology; and the IIEQ newsletter, "Illinois Solid Waste Manager." Training is available through the American Public Works Association, the National Solid Waste Management Association, and the US EPA.

Training needs exist. State-sponsored workshops could provide appropriate training for operators and decision makers. National training programs could serve engineers and planners.

## **RECOMMENDATIONS**

The IEPA and the IIEQ should expand their public information program related to solid waste management activities, to include: making "Illinois Solid Waste Manager" available to the public; developing basic instructional materials for the media; continuing the publication of directories of environmental organizations, recycling centers, and markets for recyclable materials; providing technical assistance where requested; publicizing college programs available; and sponsoring solid waste workshops for operator certification, decision makers, public officials and planners.

The State should also encourage professional attendance at national level training available from the APWA and the NSWMA.



## **Objective 10**

The tenth objective is to review State solid waste planning.

### **PROBLEM**

Solid waste management depends on technical, economical, social, and political factors which change constantly. Relevancy of management plans depends on up-to-date information. Federal guidelines for environmental management are also subject to change. State policies must be responsive to Federal requirements.

Each year, the General Assembly addresses solid waste matters. The impact on State policy and operations is often not assessed or disseminated. The Solid Waste Management Task Force has broad advisory responsibilities, but does not have time to examine in detail the solid waste activities of the three environmental agencies.

No mechanism now exists to obtain public input and an independent evaluation of solid waste management in Illinois.

### **ALTERNATIVES CONSIDERED**

The Illinois Municipal League has expressed a continuing interest in the problem, but has not been invited to make formal proposals. The State Solid Waste Planning Project has developed an array of planning factors and guideline information which will be disseminated statewide.

The State could appoint an independent consultant to review the plan annually and make recommendations to the Task Force, revise the plan at approximately five-year intervals, sponsor an annual review by regional planning officials and the Illinois Municipal League and Urban Counties Council, establish annual study projects within the IIEQ to update cost factors, and invite the solid waste industry to appoint an annual review committee to report on needs and opportunities.

## **CONCLUSIONS**

Changing factors necessitate an annual review of the State Solid Waste Planning Project. The review process could be stimulated by input from planning agencies, municipalities, and the solid waste industry.

## **RECOMMENDATIONS**

The IEPA and the IIEQ should appoint a review committee to report annually to the Solid Waste Management Task Force on the problems and opportunities occurring in Illinois. The committee should include representatives of regional planning agencies, the Illinois Municipal League, the Urban Counties Council, and the solid waste management industry. Subject to Task Force review, the reports would be disseminated by the IIEQ.